ABSTRACT

A STUDY TO ASSESS THE EFFECTIVENESS OF REMOTE ISCHEMIC PRECONDITIONING IN PREVENTING CONTRAST INDUCED ACUTE KIDNEY INJURY IN PATIENTS WITH ST ELEVATION MYOCARDIAL INFARCTION UNDERGOING CORONARY ANGIOGRAM

Anil thomas[a], G.Bagialakshmi[b],P.Saravanan[c],.S.Krishnasamy Prasath[c],

a) **Post Graduate ,Department of General Medicine ,Government Rajaji Hospital and Madurai Medical College**
b) **Professor Department of General Medicine ,Government Rajaji Hospital and Madurai Medical College**
c) **Assistant Professor ,Department of General Medicine, Government Rajaji Hospital and Madurai Medical College**

INTRODUCTION:

Acute kidney injury following receipt of iodinated contrast (CI-AKI) has been referred to as contrast induced nephropathy. There are various preventive measures for CI-AKI like 1)use of less nephrotoxic contrast agents 2)use of pharmacological agents to counteract the toxic effects of contrast media 3) administration of IV fluids to expand the intravascular space and enhance dieresis. This study shows whether ischemic preconditioning, transient brief episodes of ischemia before a subsequent prolonged ischemia / reperfusion injury is useful to reduce the incidence of CI-AKI.

AIMS AND OBJECTIVES:

To assess if remote ischemic preconditioning reduces the incidence of CI-AKI in patients with STEMI undergoing coronary angiogram.

MATERIALS & METHODS:

This is a prospective, single blind, randomized, sham-controlled parallel group study conducted among 100 randomly selected patients who are admitted in Govt Rajaji hospital , Madurai with STEMI.

Patients are divided into two groups (test and control). Control group will undergo CAG without RIPC and those in the test group will undergo CAG after undergoing RIPC by three cycles of ischemia/ reperfusion of upper arm, achieved by 5 minute cuff inflation at 20 mm Hg above SBP followed by 5 minutes of complete cuff deflation. Both sets of patients are hydrated with normal saline infusion. Necessary haematological , biochemical, radiological investigations are performed and serum creatinine will be serially monitored in the next 72 hrs**.**

RESULTS:

Of the 50 patients in the control group 18 developed CI-AKI and of the 50 in test group 8 developed CI-AKI. This shows that RIPC was associated with a lower incidence of CIAKI and the difference was statistically significant**.**

CONCLUSION:

Not only was the incidence of CIAKI lower in RIPC group, but the mean rise in serum creatinine was also lower which would further reduce the duration of

hospital stay and short term mortality. Thus RIPC can serve as a cost efficient tool in the lowering of occurrence of CI-AKI in patients undergoing contrast imaging.

KEY WORDS: CI-AKI- contrast induced acute kidney injury, STEMI, RIPC- remote ischemic preconditioning

REFERENCES:

1) Dawson P. Cardiovascular effects of contrast agents. Am J Cardiology 1989;64(9):2E-9E. http://www.ncbi.nlm.nih.gov/pubmed/2672764 27
2) Hizoh I, Haller C. Radiocontrast induced renal tubular cell apoptosis: hypertonic vs oxidative stress. Invest Radiol. 2002;37(8)